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#### REMARKS

This Response is offered in reply to the Office Action of May 28, 2002. A petition and fee for two month time extension are enclosed.

In paragraph 3 of the office action, claims 1-10 are rejected under 35 USC 103(a) as obvious in view of Frank US Patent 4 837 187 taken with Japan document 3-97675.

Applicants respectfully disagree with this rejection. Applicants have amended their claims to recite a method of treating a ceramic core after molding and before firing for use in casting molten metallic material wherein an unfired ceramic core having a molded core shape and having an organic binder is placed on at least one setter, the setter and the unfired ceramic core thereon are placed on a conveyor that conveys them through a heating oven, the setter and unfired ceramic core are conveyed through the heating oven to heat the setter and the unfired ceramic core to an elevated superambient temperature effective to soften the organic binder to reduce distortion of the unfired ceramic core, and the setter and the unfired ceramic core having softened organic binder are removed from the oven to cool to ambient temperature.

With respect to the Section 103 rejection, Applicants would first point out to the examiner that the Frank patent discloses injecting a ceramic/thermoplastic wax-based binder into a die, removing the solidified green core from the die, and then subjecting the green core to a pre-bake treatment at 232 to 288 degrees C max. temperature with graphite powder packing material covering the green core to extract or remove the binder by capillary action from the core as described at column 5, lines 6-22. The core then is sintered at high temperature as described at column 5, lines 23-34.

In contrast, Applicants amended claim 1 recites heating the setter and the unfired ceramic core to an elevated superambient temperature effective to soften, not remove, the organic binder to

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reduce distortion of the unfired ceramic core and then removing the setter and the unfired ceramic core having softened organic binder from the oven to cool to ambient temperature.

The examiner will appreciate that the Frank patent is utterly silent with respect to Applicants' claimed method and actually expressly teaches away therefrom by covering the green core in graphite powder packing material and heating to a maximum temperature in the range of 232 to 288 degrees C to extract or remove the binder by capillary action from the core as expressly described at column 5, lines 6-22.

The Frank patent thus is severely deficient with respect to Applicants' pending claims.

The cited Japanese document does not relate to treating of a ceramic core after molding and before firing for use in casting molten metallic material as recited in pending claim 1. Instead, the Japanese document involves high temperature sintering through firing of ferrite cores in oxygen-containing gas to produce high permeability cores as expressly described in the translation of the abstract provided by the examiner. A temperature of 1350 degrees C appears on page 455, right hand column, line 8 of the untranslated Japan document.

The Japanese document is not believed to make up for the above-noted gross deficiencies of the Frank patent since the document teaches high temperature sintering through firing of ferrite cores in an oxygen-containing gas of a tunnel furnace. Neither the Frank patent nor the Japanese document discloses or suggests treatment steps of the type recited in Applicants' pending claims to reduce distortion of an unfired (green) ceramic core after molding and before firing or sintering.

Moreover, the combination of the Japanese document with the Frank patent as proposed by the examiner is believed incorrect since the Japanese document involves firing at very high temperatures and

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Frank's pre-bake treatment requires graphite powder packing material covering the green core to remove the binder. Applicants fail to see any motivation to combine the Japanese document with the Frank patent.


Pending claim 1 thus is believed to be in allowable condition. The same is true of claims 2-10 since the features recited in these claims are not disclosed or suggested in the Frank patent and/or Japanese document as is apparent from the above discussion of the patents.

Reconsideration of the Section 103 rejection of claims 1-10 is requested.

Applicants have added new claims 11-12 which are believed allowable also.

Entry of this amendment and allowance of pending claims 1-12 is requested.

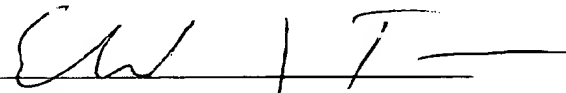
Respectfully submitted,

  
Edward J. Timmer Reg. No. 27,402

5955 West Main street  
Kalamazoo, Michigan 49009  
encl: Petition For Time Extension

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to the Patent Office to number 1-703-305-3602 on October 25, 2002.

  
Edward J. Timmer